

CLAIMS

The invention claimed is:

1. A method of determining a size of a scanned original comprising the steps of:
 - 5 (a) scanning said original at a full resolution to convert said original to scan data representing a plurality of pixels; and
 - (b) identifying a datum of said scan data corresponding to a boundary of said original.
- 10 2. The method of claim 1 wherein said step of identifying a datum of said scan data corresponding to a boundary of said original comprises the steps of:
 - (a) identifying in a line of said scan data a first datum corresponding to a first boundary of said original; and
 - 15 (a) identifying in said line of scan data a second datum corresponding to a second boundary of said original.
3. The method of claim 2 further comprising the step of determining a number of said lines of said scan data between a scan line corresponding to a third boundary of said original and another scan line corresponding to a fourth boundary of said original.
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4. The method of claim 1 wherein the step of identifying a datum of said scan data representing a boundary of said original comprises the step of determining a number of said lines of said scan data between a scan line corresponding to a boundary of said original and another scan line corresponding to another boundary of said original.
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5. A method of producing a copy of an original scaled to fit a selected copy medium comprising the steps of:
 - 30 (a) scanning said original at a full resolution to convert said original

to a plurality of scan data representing a plurality of pixels of said original;

- (b) calculating at least one of a magnification and a reduction of said original to scale a copy of said original to fit at least one of a length and a width of said copy medium; and
- (c) printing said copy from said scan data at one of said calculated magnification and reduction.

6. The method of claim 5 wherein the step of calculating at least one of a magnification and a reduction of said original to scale a copy of said original to fit at least one of a length and a width of said copy medium comprises the steps of:

- (a) identifying a first line of scan data corresponding to a first boundary of said original;
- (b) identifying a second line of scan data corresponding to a second boundary of said original;
- (c) determining a number of lines intervening between said first and said second lines; and
- (d) calculating a scale of said number of lines not exceeding at least one of said length and said width of said copy medium.

7. The method of claim 6 wherein the step of identifying a line of scan data corresponding to a boundary of said original comprises the step of identifying a line of said scan data comprising a scan datum corresponding to a pixel of said original.

8. The method of claim 5 wherein the step of calculating at least one of a magnification and a reduction of said original to scale a copy of said original to fit at least one of a length and a width of said copy medium comprises the steps of:

- (a) locating a first boundary datum of said original in a first line of scan data;
- (b) locating a last boundary datum of said original in said first line of scan data;
- 5 (c) repeating steps (a) and (b) for another line of scan data;
- (d) locating a first boundary of said original from said location of at least one said first boundary datum of at least one of said first and said another line of scan data;
- (e) locating a second boundary of said original from said location of at least one said second boundary datum of at least one of said first and said another line of scan data; and
- 10 (f) calculating a scale of a distance between said first and said second boundary not exceeding at least one of said width and said length of said copy medium.
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9. The method of claim 8 wherein the step of locating a boundary datum of said original in a line of scan data comprises the step of detecting a scan datum corresponding to a pixel of said original.
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10. The method of claim 5 wherein the step of calculating at least one of a magnification and a reduction of said original to scale a copy of said original to fit at least one of a length and a width of said copy medium comprises the steps of:
- (a) identifying a plurality of said scan data corresponding to a line of scanned pixels;
- 25 (b) locating a detected pixel of said original in a line of scanned pixels;
- (c) repeating steps (a) and (b) for a plurality of lines of a full resolution scan of said original;
- 30 (d) locating a boundary of said original from said location of at least

- one of said detected pixels of at least one line of scanned pixels;
- (e) calculating a dimension of said original image from said location of said boundary; and
- (f) calculating at least one of a magnification and a reduction to scale said dimension of said original image to fit at least one of said length and said width of said copy medium.

11. A method of producing a copy of an original scaled to fit a selected copy medium, the method comprising the steps of:

- (a) scanning a line of pixels of said original to convert said pixels to scan data;
- (b) detecting a pixel of said original in a line of scanned pixels;
- (c) repeating steps (a) and (b) for a plurality of lines of a full resolution scan of said original;
- (d) locating a boundary of said original from a position of at least one of said detected pixels;
- (e) calculating a dimension of said original from said location of said boundary;
- (f) calculating at least one of a magnification and a reduction to scale said dimension of said original to fit a selected size of a copy medium; and
- (g) printing a copy of said original from said scan data at one of said calculated magnification and reduction.

12. The method of claim 11 further comprising the steps of:

- (a) storing said scan data; and
- (b) printing said copy from said stored scan data.

5 13. The method of claim 11 wherein the step of calculating a dimension of said original image from said location of said boundary comprises the steps of:

- (a) identifying a scan line corresponding to a first boundary of said original;
- (b) identifying another scan line corresponding to a second boundary of said original; and
- (c) determining a number of scan lines intervening between said scan line and said another scan line.

10 14. A method of producing a plurality of copies of an original on a copy medium comprising the steps of:

- (a) scanning said original at a full resolution to convert an image of said original to a plurality of data representing a plurality of pixels of said original;
- (b) determining an arrangement for printing a plurality of copies of said original on a selected copy medium; and
- (c) printing said copies from said data according to said arrangement.

15 15. The method of claim 14 wherein the step of determining an arrangement for printing a plurality of copies of said original on a selected copy medium comprises the steps of:

- (a) determining a dimension of said original; and
- (b) calculating a multiple of said dimension that will not exceed at least one of a width or a length of said copy medium.

16. The method of claim 15 wherein the step of determining a dimension of said original comprises the steps of:

(a) identifying a plurality of said data corresponding to a line of scanned pixels;

5 (b) detecting a pixel of said original in said line of scanned pixels;

(c) repeating steps (a) and (b) for a plurality of lines of a full resolution scan of said original;

(d) locating a boundary of said original from a position of at least one of said detected pixels of said original; and

10 (e) calculating a dimension of said original image from said location of said boundary.

17. The method of claim 15 wherein the step of determining a dimension of said original comprises the steps of:

15 (a) identifying a plurality of said data corresponding to a line of scanned pixels;

(b) identifying a first scan line corresponding to a first boundary of said original;

20 (c) identifying a second scan line corresponding to a second boundary of said original image; and

(d) determining a number of scan lines intervening between said first and said second scan lines.

18. The method of claim 15 wherein the step of determining a dimension of said original comprises the steps of:

25 (a) identifying a plurality of said data corresponding to a line of scanned pixels;

(b) detecting a pixel of said original in a line of scan data;

(c) detecting another pixel of said original in said line of scan data;

30 (d) repeating steps (b) and (c) for another line of scan data;

(e) locating a first boundary of said original from a position of at least one of said detected pixels of said original in at least one line of scan data; and

5 (f) locating a second boundary of said original from a position of at least one of said another detected pixels of said original in at least one line of scan data.

19. A method of producing a plurality of copies of an original on a copy medium comprising the steps of:

10 (a) scanning to convert a line of pixels of said original to scan data;

(b) detecting a pixel of said original in said line of scanned pixels;

(c) repeating steps (a) and (b) for a plurality of lines of a full resolution scan of said original;

15 (d) locating a boundary of said original from at least one of said detected pixels of at least one of said lines of scanned pixels;

(e) calculating a size of said original image from said location of said boundary;

(f) calculating a multiple of said size that will not exceed a dimension of a selected copy medium; and

20 (g) printing from said scan data a plurality of copies of said original equal to said multiple.

20. The method of claim 19 further comprising the steps of:

(a) storing said scan data; and

25 (b) printing said copy from said stored scan data.

21. The method of claim 19 wherein the step calculating a size of said original image from said location of said boundary comprises the steps of:

- (a) identifying at least two scan lines including a detected pixel of said original;
- 5 (b) locating a first boundary and a second boundary of said original according to a relationship of said detected pixels; and
- (c) calculating a number of scan lines intervening between said first and said boundaries.

10 22. The method of claim 19 wherein the step calculating a size of said original image from said location of said boundary comprises the steps of:

- (a) detecting a first pixel of said original in a line of scanned pixels;
- (b) detecting another pixel of said original in a line of scanned pixels;
- 15 (c) locating a first boundary of said original from said location of said first detected pixel;
- (d) locating another boundary of said original from said location of said another detected pixel; and
- 20 (e) calculating a distance separating said first boundary and said another boundary.